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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,259	08/21/2003	Samuel C. Kingston	907A.0137.U1(US)	9491
29683	7590	11/07/2006	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			DEPPE, BETSY LEE	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,259

Applicant(s)

KINGSTON ET AL.

Examiner

Betsy L. Deppe

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9, 16, and 18 is/are rejected.
- 7) ☒ Claim(s) 1-8, 10-15, 17 and 19-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/25/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figures 2 and 3, it appears that "Compliment Block 68" should be "**Complement** Block 68".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. on page 1, line 9; page 10, lines 21-22; page 11, line 29; and page 13, lines 20, 22 and 23, the squares should be replaced by appropriate symbols for

clarification since it is unclear if each occurrence of the square corresponds to the same definition/value;

b. on page 11, line 30; page 12, lines 5, 7 and 9; and page 13, line 25, it appears that “compliment” should be “complement”;

c. on page 12, line 14, “62” should be deleted since “62” refers to a “phase figure” (for example, see page 10, lines 28 and 32) which differs from “phase estimate” on line 14;

d. on page 12, line 15, the Examiner suggests changing both occurrences of “phase figure” to “phase figure **62**”; and

e. on page 13, line 30 - page 14, line 9, it appears that “weighing factor” should be “weighting factor” in order to be consistent with the claims language (for example, see claim 1, line 7).

Appropriate correction is required.

Claim Objections

3. The claims are objected to because of the following informalities:

a. in claim 1, line 6, “than1” should be “than 1”;

b. in claim 1, lines 11-12, “the delayed and phase-adjusted PM signal” should be “the phase-adjusted delayed PM signal”;

c. in claim 9, line 14, “correcting phase” should be “correcting ***the*** phase”;

d. in claim 9, line 16, “the delayed phase-adjusted version” should be “the phase-adjusted ***delayed*** version” (see line 15);

e. in claim 9, line 18, “adjusting timing” should be “adjusting ***the*** timing”;

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- f. in claim 10, line 13, "an algorithm and a lookup table sub-circuit" should be "the algorithm sub-circuit and the lookup table sub-circuit";
- g. in claim 12, lines 3 and 4, "received signal" should be "received PM signal";
- h. in claim 13, line 2, "an algorithm" and "a lookup" should each be "the algorithm" and "the lookup," respectively;
- i. in claim 14, line 1, "an algorithm" and "a lookup" should each be "the algorithm" and "the lookup," respectively;
- j. in claim 14, line 2, "the timing" should be "a timing"; and
- k. in claim 17, line 13, "an algorithm and a lookup table sub-circuit" should be "the algorithm sub-circuit and the lookup table sub-circuit."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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The specification does not describe the “differentially weighted k data bits” on line 9.

Therefore, it is unclear how to determine the “differentially weighted k data bits” before determining the phase correction factor and the timing weight factor, as recited in claim 9, lines 8-9.

7. Claims 9, 16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. In claim 9, it is unclear what is meant by “differentially weighted k data bits” on line 9 and “apart from the first circuit branch” on line 10. For example, is the step on lines 10-11 part of the second circuit branch or a different branch?

9. Claim 16 is vague and indefinite because it doesn't make sense to place/dispose a second timing adjust block between the delay block and the second timing adjust block itself.

10. In claim 18, it is unclear what is meant by “defines two inputs that are synchronize.” For example, how does a multiplier “define” an input?

Allowable Subject Matter

11. Claims 1-8, 10-15, 17 and 19-21 are allowable.

12. Claims 9, 16 and 18 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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13. The following is a statement of reasons for the indication of allowable subject matter:

a. with regard to claims 1-8, prior art of record does not teach or suggests in combination of a method of correcting the timing of a phase modulated signal comprised of the steps recited in claim 1, lines 4-12;

b. with regard to claim 9, prior art of record does not teach or suggests in combination of a method of correcting the timing and phase of a phase modulated signal comprised of the steps recited in claim 9, lines 5-17;

c. with regard to claim 10-16, prior art of record does not teach or suggests in combination a circuit to correct the timing of a phase modulated signal comprised of the limitations recited in claim 10, lines 3-8 and 10-14; and

d. with regard to claims 17-21, prior art of record does not teach or suggests in combination of a circuit to correct the timing and phase of a phase modulated signal comprised of the limitations recited in claim 17, lines 3-8 and 10-14.

Conclusion


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references disclose circuits and method for timing and phase correction in a receiver: Menkhoff et al. (US Pub. No. 2003/0118120 A1); Wang et al. (US Pub. No. 2004/0101068 A1); Sehier et al. (US Patent No. 5,933,467); and Song et al. (US Patent No. 6,925,132 B2).

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Betsy L. Deppe
Primary Examiner
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